

Amendments to the Claims

The current listing of the claims replaces all previous amendments and listing to the claims.

1. (Currently Amended) An objective lens drive apparatus configured to be used in an optical pickup, comprising:

a magnetic circuit comprising a magnet configured to be magnetized in two polarities; and

a coil unit comprising a laminate structure including a focus coil, a tracking coil and a tilt coil,

wherein ~~the focus coil, the tracking coil and the tilt coil are~~ the laminate structure is disposed within a magnetic gap of the magnetic circuit.

2. (Previously Presented) The objective lens drive apparatus according to claim 1, wherein the magnetic circuit comprises a plurality of magnets.

3. (Previously Presented) The objective lens drive apparatus according to claim 1, wherein the coil unit comprises a plurality of printed circuit boards, and the focus coil, the tracking coil and the tilt coil are separately disposed on the printed circuit boards.

4. (Previously Presented) The objective lens drive apparatus according to claim 1, wherein the coil unit comprises a plurality of first and second printed boards, and the focus coil and the tracking coil are disposed on the first printed board and the tilt coil is disposed on the second printed board.

5. (Previously Presented) The objective lens drive apparatus according to claim 1, wherein the coil unit comprises a plurality of first and second printed boards, and the focus coil and the tilt coil are mounted on the first printed board and the tracking coil is mounted on the second printed board.

6. (Previously Presented) The objective lens drive apparatus according to claim 1, wherein the coil unit comprises only one focus coil, an even number of tracking coils and two tilt coils, and wherein the magnet is configured to be magnetized in two polarities in a focus direction.

7. (Previously Presented) The objective lens drive apparatus according to claim 1, wherein the coil unit comprises an even number of focus coils, only one tracking coil and two tilt coils, and wherein the magnet is configured to be magnetized in two polarities in a tracking direction.

8.-21. (Canceled)

22. (Currently Amended) An objective lens drive apparatus configured to be used in an optical pickup to detect the inclination of an optical disk to adjust the inclination of an objective lens in accordance with an inclination signal of the optical disk, comprising:

a magnetic circuit comprising a magnet configured to be magnetized in two polarities;
and

a coil unit comprising a laminate structure including a focus coil, a tracking coil and a tilt coil,

wherein ~~the focus coil, the tracking coil and the tilt coil are~~ the laminate structure is disposed within a magnetic gap of the magnetic circuit,

wherein a focus servo is configured to be executed by supplying currents respectively to a plurality of the focus coils due to a sum of drive forces generated in the plurality of focus coils, and

wherein an inclination adjustment of the objective lens is configured to be executed by generating a moment around a center of gravity of a movable part due to a difference between the drive forces.

23. (Previously Presented) The objective lens drive apparatus according to claim 22, wherein the magnetic circuit comprises a plurality of magnets.

24. (Previously Presented) The objective lens drive apparatus according to claim 22, wherein the coil unit comprises a plurality of printed circuit boards, and the focus coil and the tracking coil are separately disposed on the printed circuit boards.

25. (Previously Presented) The objective lens drive apparatus according to claim 22, wherein the coil unit comprises a printed circuit board, and the focus coil and the tracking coil are disposed on the printed circuit board.

26. (Previously Presented) The objective lens drive apparatus according to 22, wherein the coil unit comprises an even number of focus coils and only one tracking coil, and the magnet is configured to be magnetized in two polarities in a tracking direction.

27. (Currently Amended) An objective lens drive apparatus configured to be used in an optical pickup to detect the inclination of an optical disk to adjust the inclination of an objective lens in accordance with an inclination signal of the optical disk, comprising

a magnetic circuit comprising a magnet configured to be magnetized in two polarities;
and

a coil unit comprising a laminate structure including a focus coil, a tracking coil and a tilt coil,

wherein ~~the focus coil, the tracking coil and the tilt coil are~~ the laminate structure is disposed within a magnetic gap of the magnetic circuit,

wherein a tracking servo is configured to be executed by supplying currents respectively to a plurality of the tracking coils due to a sum of drive forces generated in the plurality of focus coils, and

wherein an inclination adjustment of the objective lens is configured to be executed by generating a moment around a center of gravity of a movable part due to a difference between the drive forces.

28. (Previously Presented) The objective lens drive apparatus according to claim 27, wherein the magnetic circuit comprises a plurality of magnets.

29. (Previously Presented) The objective lens drive apparatus according to claim 27, wherein the coil unit comprises a plurality of printed circuit boards, and the focus coil and the tracking coil are separately disposed on the printed circuit boards.

30. (Previously Presented) The objective lens drive apparatus according to claim 27, wherein the coil unit comprises a printed circuit board, and the focus coil and the tracking coil are mounted on the printed circuit board.

31. (Previously Presented) The objective lens drive apparatus according to claim 27, wherein the coil unit comprises only one focus coil and an even number of tracking coils, and the magnet is configured to be magnetized in two polarities in a focus direction.

32.-41. (Canceled)

42. (Currently Amended) An objective lens drive apparatus configured to be used in an optical pickup, comprising:

a magnetic circuit comprising a magnet configured to be magnetized in two polarities;

a coil unit comprising a laminate structure including a focus coil, a tracking coil and a tilt coil, the laminate structure disposed in a magnetic gap of the magnetic circuit; and

a lens, configured to be adjusted in a focusing direction, a tracking direction, and a tilt direction by the magnetic circuit and coils is, provided in a lens holder.

43.-48. (Canceled)

49. (New) The objective lens drive apparatus according to claim 1, wherein the focus, tilt, and tracking coils are disposed on a plurality of circuit boards, the plurality of circuit boards forming the laminate structure with one another.

50. (New) The objective lens drive apparatus according to claim 1, wherein an objective lens is disposed outside of the laminate structure.

51. (New) The objective lens drive apparatus according to claim 22, wherein the focus, tilt, and tracking coils are disposed on a plurality of circuit boards, the plurality of circuit boards forming the laminate structure with one another.

52. (New) The objective lens drive apparatus according to claim 22, wherein an objective lens is disposed outside of the laminate structure.

53. (New) The objective lens drive apparatus according to claim 27, wherein the focus, tilt, and tracking coils are disposed on a plurality of circuit boards, the plurality of circuit boards forming the laminate structure with one another.

54. (New) The objective lens drive apparatus according to claim 27, wherein an objective lens is disposed outside of the laminate structure.

55. (New) The objective lens drive apparatus according to claim 42, wherein the focus, tilt, and tracking coils are disposed on a plurality of circuit boards, the plurality of circuit boards forming the laminate structure with one another.

56. (New) The objective lens drive apparatus according to claim 42, wherein the lens is disposed outside of the laminate structure.